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To identify appropriate content for pharmacy technician training programs, this meeting brought together staff members of the Allied Health Professions Projects and 10 committee members representing professional associations and hospital pharmacy administration. The purpose of the project is to develop instructional units for and education in pharmacy. Following an explanation of the project, the committee discussed the philosophy underlying the development of the pharmacy technician role, a summary of which forms the bulk of the report. Subsequently, the specific methodology for the development of curriculum and a draft of a task list for a facility pharmacy operation which had been developed by project staff were presented. Revision of the list was accomplished in the course of the meeting and through subsequent sub-committee activity and is included. Appended is a draft of a questionnaire calling for analysis of each task in terms of frequency, relative frequency, importance, kind of skill, and knowledge required. (JK)

EDO 30754

Meeting Report

NATIONAL TECHNICAL ADVISORY COMMITTEE FOR PHARMACY

Research and Demonstration Grant 8–0627
U.S. Office of Education, Bureau of Research
Department of Health, Education, and Welfare

Los Angeles, California
March 23–25, 1969

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ALLIED HEALTH PROFESSIONS PROJECTS
Division of Vocational Education
University of California, Los Angeles

May 1969

ALLIED HEALTH PROFESSIONS PROJECTS

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NATIONAL TECHNICAL ADVISORY COMMITTEE

FOR PHARMACY (Los Angeles, Calif. March 23-25, 1969).

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Robert R. Henrich,

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ALLIED HEALTH PROFESSIONS PROJECTS
Division of Vocational Education,
University of California, Los Angeles, Calif.

Mary Ellison, Editor

May 1969

Roster

NATIONAL TECHNICAL ADVISORY COMMITTEE FOR PHARMACY

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President, American Society of Hospital Pharmacists
Chief of Pharmacy Service
University of California Hospital
Los Angeles, California

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Sister Jane M. Durgin
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Major George J. Lafleur, M.S.C., U.S.A.
Chief, Pharmacy Branch
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Executive Director-Secretary
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Chicago, Illinois

*Mr. Alfred Duncan (alternate)
Representing National Association of Boards of Pharmacy
Executive Secretary, Arizona State Board of Pharmacy
Tucson, Arizona

*In attendance

Robert Maronde, M.D.
Professor of Medicine
University of Southern California
Los Angeles, California

Mr. Joseph A. Oddis
Executive Secretary
American Society of Hospital Pharmacists
Washington, D.C.
Dr. Warren E. McConnell (Alternate)
Education Director
American Society of Hospital Pharmacists
Washington, D.C.

Mr. Robert Ravin
Director of Pharmaceutical Services
St. Joseph Mercy Hospital
Ann Arbor, Michigan

A G E N D A

University of California Allied Health Professions Projects

NATIONAL TECHNICAL ADVISORY COMMITTEE FOR PHARMACY

March 23-25, 1969

Sunday, March 23

7:30 to 9:30 p.m.	RECEPTION Hotel Miramar Garden Room Santa Monica, California

Monday, March 24

9:00 a.m.	Objectives of the Allied Health Professions Projects: Dr. Melvin L. Barlow Director, Division of Vocational Education University of California Los Angeles Dr. Miles H. Anderson Director, Allied Health Professions Projects Dr. Katherine L. Goldsmith Deputy Director, Allied Health Professions Projects
10:00 to 11:00 a.m.	Summary of the Workshop of Sub-Professional Personnel in Hospital Pharmacy conducted by the American Society of Hospital Pharmacists on January 13-15, 1969 in Washington, D.C., presented by Mr. Joseph A. Oddis, Executive Secretary of the American Society of Hospital Pharmacists.
11:00 to 12:00 Noon	Committee operation and organization.
12:00 Noon	LUNCHEON

1:30 to 4:00 p.m.	Preliminary review of task lists by the Committee.
4:00 p.m.	ADJOURNMENT

Tuesday, March 25

9:00 to 10:30 a.m.	Continue discussion of task lists by the Committee.
10:30 a.m.	Summary and Recommendations
12:00 Noon	ADJOURNMENT

(Robert R. Henrich, Associate Director for Pharmacy, Allied Health Professions Projects, served as Moderator for the Committee's discussions.)

Meeting Report

NATIONAL TECHNICAL ADVISORY COMMITTEE

FOR PHARMACY

I N T R O D U C T I O N

On March 25-26, 1969, the first meeting of the National Technical Advisory Committee for the development of the Pharmacy Facility Technician program was held in Los Angeles at the offices of the UCLA Allied Health Professions Project. Dr. Melvin Barlow, the opening speaker, welcomed the group and summarized the background and development of the Allied Health Professions Project. He was followed by Dr. Miles H. Anderson and Dr. Katherine L. Goldsmith, who presented the Project and its concepts in more detail. Following this, the Committee discussed the philosophy underlying the development of the Facility Technician role and asked a number of questions of the Allied Health Professions Project staff.

A summary of this interchange forms the bulk of this report. Following the discussion on Monday, Mr. Henrich presented the over-all goals of the program for the Pharmacy Technician. He outlined some specific methodology for the development of the Pharmacy Technician curriculum and then presented a draft of a selected functional task list for a facility pharmacy operation. The group then reviewed this task list and made a number of recommendations for revisions.

The revisions to the task list are shown in Appendix A. This is being disseminated to the Committee along with a request to consider an analysis of the Task Inventory with respect to the skills and knowledge necessary to perform the tasks (Appendix B).

The two-day meeting closed with the Committee's expressions of confidence in the value and importance of its deliberations. Members said they felt that much had been accomplished toward developing a Pharmacy Technician curriculum, in addition to delineating some new roles for the Registered Pharmacist.

BACKGROUND AND ORIENTATION

Dr. Melvin L. Barlow, Principal Investigator of the Allied Health Professions Projects, opened the meeting by giving some background for the program. He said it originated in the concern of the U.S. Office of Education that the fast-proliferating list of specialized occupations in the health care delivery system might result in ill-coordinated or duplicated efforts on the part of individual schools to meet the need for technician training.

The occupations under consideration were those requiring less than professional preparation -- that is, jobs for which workers could be prepared on the job, in short courses, and at varying levels up to the junior college or community college Associate of Arts degree. The personnel so trained would assist the highly trained professional, whether doctor, dentist, nurse, or technologist, by taking over those activities that do not require professional skills, and in this way would make the efforts of the professional more productive.

Having invited the submission of proposals to develop such a program, the U.S. Office of Education accepted the one submitted by the Division of Vocational Education of the University of California, Los Angeles. A major consideration was the Division's long experience in providing pre-service and in-service curriculum materials for a broad range of occupations. In addition, the School of Education, having been engaged in innovative approaches to junior college programs, could draw upon a substantial reservoir of specialists in the field of technical and occupational education to serve as consultants or as members of Technical Advisory Committees.

"The National Advisory Committees would close in on the basic content and objectives of the programs concerned," Dr. Barlow explained. "This would enable us to develop optimum programs for the preparation of people in whatever occupational classifications or areas or levels the Advisory Committees thought most appropriate. Then we would test these programs in an instructional setting, to see if they really worked. Finally, we would package them and make them available to junior colleges and/or other institutions throughout the United States that wanted to develop such instructional programs.

"The economy of such a project is obvious -- instead of a dozen or a hundred community colleges all striving to develop programs in the same occupations, we would develop materials flexible enough to fit varying requirements, and of quality, based on expert judgment, to suit nation-wide standards and needs.

"Our first task, of course, is to identify appropriate content to meet instructional needs in your area of specialization. You will help us identify that content. There may be disagreement at first, but there are areas of agreement, too, and our purpose is to enlarge those areas of agreement. By the time we have finished, we will have developed a program on which all of you can agree."

In response to a question from Mr. Cain, Dr. Barlow explained that the program had been assigned to the Division of Vocational Education because of the large block of Federal funds allocated to vocational education, which made it easier to finance a broad-scale program in this specialized field. Moreover, he added, since this was to be job-entry training, it logically fell into that UCLA division.

In response to another question from Mr. Cain, Dr. Miles H. Anderson,Project Director, said that the term, "allied health professions", had been coined by Congress to identify the new legislation supporting such training, known as the Allied Health Professions Act of 1966. "Some of the people in the professions," he added, "either suggested or objected to such designations as ancillary or paramedical. The name, 'allied health professions' seems to be accepted rather generally, and that is the name we settled on."

Dr. Anderson added that the national scope of the program presented both opportunities and obstacles, pointing to regional differences in terminology and practice as among obstacles to be anticipated. "Merely resolving these differences in the interests of national acceptance is going to take a bit of doing," he commented. "A National Technical Advisory Committee such as this one, with its distinguished national constituencies, ought to be able to bring about quite a bit of harmony among pharmacists throughout the country, considering that every area has its own pet practices and its own sensitivities."

The instructional units to be developed for each profession ought to be suitable for use at various levels and in different settings, Dr. Anderson emphasized. "Our grant proposal specified that materials developed should be useful not only for community college curricula, but also for entry level on-the-job training, for upgrading through in-service programs, and in technical institutes, and wherever there may be need to develop or improve the skills of workers. That is why we proposed to develop short specialized units or modules, that might be either combined into longer training programs, or used to meet one specific need. These would be useful wherever or whenever allied health personnel needed instruction in the skills of a specific occupation."

Because on-the-job training is so important for lower-level skills in the allied health field, in addition to the clinical experience required in many occupations, the extensive clinical instructor training program already made available throughout the country by Dr. Anderson can be utilized in one-week workshops, as has been done for health and hospital personnel at many levels. "This is the equivalent of the internship experience," he explained. "Every health setting has its own methods and objectives to which new employees must be oriented, so we will help the trainers train trainees better and more easily, through these simple and proven methods."

Dr. Anderson explained that instructional materials to be developed by the Allied Health Professions Projects, when completed and validated by testing in cooperating institutions, will be produced and distributed with the help of the private sector, since "I don't want to go into the publishing business,

and neither does the Division of Vocational Education. We told the publishing field and producers of instructional aids about what we are doing, and practically all of the major producers of softwares and hardware for the educational field have expressed interest in cooperating with us. So when we reach that point, we ought to have no trouble in achieving distribution. Our function, I think, should be to serve as watch-dogs, through the use of our Advisory Committees, to make sure that we achieve and maintain the quality levels you and we want."

A question from Sister Ferdinand Clark regarding core curriculum for the entire field as a means of effecting economies in instruction elicited Dr. Anderson's response that instructional cores would be a major consideration. "We know that many of the fundamental sciences, such as anatomy, physics, chemistry, physiology, have a place in almost every curriculum, but there will be points at which they branch off for one occupation, and perhaps continue for another. The problem will be to relate to specific tasks and responsibilities the amount of a basic science a student needs -- we don't want to over-train, and we don't want to skimp on training. But certainly, we will seek to identify and develop core units for most of the commonalities of the basic knowledge that must be incorporated into almost all the allied health professions. Maybe they all need medical terminology, but I'd assume the Medical Records Technician needs little or no physics or chemistry, and so it goes." Dr. Anderson added that the UCLA Medical School was cooperating in appropriate areas through Mr. Bernard Strohm, Coordinator of Allied Health Professions for the UCLA Hospitals and Clinics, who serves on the National Advisory Committee for the program, and maintains liaison with all departments that might enter into the picture.

Attention to opportunities for minority populations is a basic element in the over-all program, Dr. Anderson replied to another question from Sister Ferdinand. He identified Mr. John Lopez as consultant on minority populations to the National Advisory Committee, and added, "My own experience with a Mexican-American pre-employment training program has taught me that we can't overlook minority groups."

Dr. Katherine L. Goldsmith, Deputy Director, told the Committee that in addition to seeking instructional areas that might be developed as core courses, "we are looking at an introduction to health careers or an introduction to the health sciences -- orientation materials that will show where each occupation fits into the picture of health care delivery. We have such a course here at UCLA, at a higher level," she added. "The level may not be appropriate for us, but at least it is taught. It's a way of getting across quite a bit of anatomy, biochemistry, physiology, at the level the sub-professional or sub-baccalaureate would need.

"In preparing to work with minority populations", she continued, "We have established a contact with Martin Luther King, Jr., Hospital, due to open in 1970, in terms of testing packages and helping with staffing patterns. There is a possibility of additional monies to actually set up a joint program with them and to extend the coverage beyond the minority population.

In other words, this would mean a program not necessarily for minority groups, but rather for hospital staffing. This is located in our south central area, with a predominantly black population. We also would like to become involved to some extent over in East Los Angeles, with its concentration of Mexican-Americans, for testing ideas for our packages.

"Part of our commitment, really, is to provide for upward and lateral mobility, and this can best be done by working with the beginning student rather than concentrating on either the dropout or minority student or the budding physician or pharmacist. Another candidate is someone who has not yet made up his mind about which field to enter. Mrs. Shirley Majchrzak is our consultant on this who is beginning to daydream about what we might like to do. Once we establish career ladders, the youngster who starts off to be a Pharmacist Assistant can, at some point, move on to Pharmacy School if he decides to become a Pharmacist.

"Of course this is part daydreaming, but it is the kind of thing we have to consider. We are not totally concerned with the occupation -- part of our concern is for the youngster entering the field. I think we need to be concerned with the Pharmacy Assistant as he relates to the Pharmacist and as he relates to medical care. We have to make sure there is a job for the youngster we are training.

"This project is exciting because of the influence I think we can have on the medical care system -- not in Pharmacy alone, but in conjunction with all our Advisory Committees. There is a ferment in the field at this point, and we have the ideal opportunity to move in with educational programs. For example, what is the nursing function and how much training does it call for and who needs to perform each segment of the nursing function? It is an opportunity to begin to influence licensure and health care practice. Many changes are occurring in the delivery of medical care, and we can move right in with them.

"Our priorities have been established in two ways: first, by asking where we think it is interesting to develop a program, and not so much by asking where the personnel needs are. Any time you take the second approach, Nursing comes out as Priority 1. So questions we ask are: Where are your gaps in instructional materials? What are some of the exciting new things going on in the field? What new occupations are developing?

"Mr. Henrich decided that among all the Administrative and Support Services, the Pharmacy Assistant was a good place to get started, because there seemed to be willingness to start using this kind of personnel. This being so, there will be a need for training programs, since not very many are in existence at present."

In response to a question from Mr. Oddis as to whether the program is meeting with resistance from any particular group, Dr. Goldsmith said, "We certainly are. Fairly constantly. But we hope to overcome resistance by getting good Advisory Committees manned by persons well recognized in their fields. We hope, too, for a good mix on the Advisory Committees, to include all elements in the occupational picture.

"For instance, let's consider clinical laboratories. There will be some resistance from the 5-year technicians to establishment of a lower order technician, because we're going to say, 'You don't really need five years to do a particular job, do you?' And our Technical Advisory Committee will be bringing the technicians together with pathologists, with whom they usually are at war in terms of salaries, responsibilities, and so on. We hope to bring in the physician utilizer, the hospital administrator. We hope to come to some agreement with nationally known people such as you are, so that we have strong backing when we say, 'We think this will work -- let's try it.'"

Mr. Cain: Then I can assume that you are looking to this Committee to tell you whether or not to go; and if we say "Go", in what area. It might be a totally different area from what you have in mind.

Dr. Goldsmith: Of course. You know the field and the person we are to train, and you know whether he will be employable. If there isn't a job for him, then there is no sense in training him. Yes, we are depending on you to determine where we go, if we go.

Mr. Ravin: Suppose we run into difficulties and that we do not succeed well enough to say, "This is a Pharmacy Technician." Those of us who represent organizations will have to go back and meet with other groups and discuss these problems. All this takes time.

Dr. Goldsmith: We don't have to train for the whole job; we can start with a part of the job on which we all agree. We expect to work in instructional modules, so you might come up with half a Pharmacy Technician. The modules will train for specific functions, perhaps on an in-service basis. And as we develop more modules we will be moving toward a curriculum.

Dr. Maronde: What we propose to do is to upgrade the Pharmacist by giving him time for the higher elements in his function -- drug consultation with doctors, interpretation of doctor's prescriptions to patients, and others -- for which there certainly is a need but little time is available. And we do this by providing appropriately skilled assistance to handle lower-level functions not requiring professional skill and judgment. In other words, we redefine the Pharmacist and define a Pharmacy Assistant.

Dr. Goldsmith: This is what we hope to do through functional analysis of occupations. By finding out what is done by the Pharmacist, you can see where the lines of responsibility break between the professional and the technician.

Mr. Ravin: Will you be working with U.C.L.A.? If they are not interested in cooperating, can you work with another college?

Dr. Goldsmith: U.C.L.A. has no baccalaureate program in most of the areas in which we will work. If we want to work out a way for the people we train to move up the ladder, we're going to have to go elsewhere. This is no problem. After all, ours is a national rather than a local project.

Mr. Ravin: I see where some of the material we develop might be applicable to the colleges of pharmacy, at least to begin with. I see a great value to this approach in that we have in this program people to help us who know teaching methods. This is much needed -- I'm a college teacher myself, and I am aware that most of us are not trained educators.

Dr. Goldsmith: We know what materials we develop may be applicable at other levels and we see no reason why they should not be used in that way.

Dr. Brady: At their annual meeting, the American Association of Colleges of Pharmacy tackled the question of closed-end vs. open-end training--that is, the kind of program from which a person can move up in his profession. They came up with an introductory program based on pre-pharmacy, which of course includes no clinical or technical training, but merely basic science. I would almost suggest that a Pharmacy Technician could do very well with no collegiate credits, but I'm not sure that this is fair to the individual if the training is of any duration.

Major Lafleur: We find in the military that people who have come to us with three or four years of pharmacy school often have insufficient background as far as our needs are concerned. They must have at least the amount of training we give our own technicians before we can accept them. For example, some of them have never had pharmacology.

Dr. Goldsmith: Perhaps in this way we can extend our influence to the entire educational system. In other words, the professional schools might take a look at what we are doing, too.

Mr. Ross (Associate Director, Clinical Laboratory): It may interest you to know that the laboratory people, in spite of some problems that they have, have recognized this problem and they have been very actively trying to develop equivalency testing, working with the Educational Testing Service. If they make any headway, I see no reason why other occupations should not learn from their experience.

Mr. Henrich: In the course of our contacts, a number of you have suggested the names of people who would be very helpful to us, and I'd like to mention that when there is need for a specific type of expertise, we can call for consultation service. We can discuss this when the need arises.

Now I'd like to speak to the points raised by Bob Ravin regarding what the Project is doing and what the Committee's functions are. Yes, we have set some goals, and the Committee, as the advisory group, the decision-making group, should set us right if these goals are unrealistic or unworkable or if our methodology needs changing.

Before this meeting, we discussed some methodology we thought might be appropriate, and we'd like the Committee to review this and provide us with guidance. Let me outline the over-all plan; I can come back to details when we discuss the function list we have prepared.

The first thing we have to do is get a task list; we have a preliminary list today that you will have a chance to go over. The next item will be the selection of tasks. Beyond that, the next step is verification of the task list, which we think can be handled through a national interview-survey of Pharmacists in typical health care institutions throughout the country.

Once the task list is validated, we must establish the knowledge and skills required to perform these tasks. Then we would move on to development of the curriculum itself -- deciding what we are going to teach. At this point we must decide -- and this will be largely the Technical Advisory Committee's decision -- whether there will be academic credit given for any of the courses. We have to consider the ladder concept -- the vertical progression of the individual, so that he does not get frozen into an entry-level category. These are some of our thoughts on developing the curriculum.

The next step, as we see it, will be the development of the instructional packages, the multi-media materials. How are we going to present this curriculum to the student? Sister Ferdinand asked this morning how pharmacy is going to relate to other allied health fields through core areas, perhaps in a basic health program. Dr. Anderson mentioned the modular concept -- if we get small enough units in our total package, it will provide flexibility, so that units can be inserted in one or another of several instructional programs. The next step would be workshops for the instructors who will make use of the curricula -- training them in how to make effective use of the materials in their own instructional programs.

Next on the list is testing, and here is where we get involved with performance goals. We will ask, "Now that we have trained the Technician, is he really doing a job for us in the hospital pharmacy?" In other words, we will ask for the Pharmacist's evaluation of the program. If he doesn't think the results are adequate, maybe we have to change the curriculum.

After the program is tested, we go into production and distribution. That is one possible method of carrying through this project. We aren't bound to follow it, but I thought I'd summarize it and get your reactions. We don't have it in writing, but I'll get it together, perhaps from the tape recording, and get it to you on paper.

GENERAL DISCUSSION

Dr. Brady: Your proposed program seems to be completely hospital-oriented, but the real hassle will be at the community pharmacy level. We already have Pharmacy Technicians in hospitals and they are permitted by some of our State Boards, so the real problem with this category would lie in the community setting.

Mr. Henrich: We are aware that a Technician program might meet with considerable resentment in the retail community pharmacy area. We felt that we might try to define specifically what goes into the Technician job and possibly to consider advocating legislation to cover this function. Rather than tackle an over-all program, we felt we would point ourselves as a start toward the facility Technician, in that it would be a more reasonable goal.

Mr. Cain: Just where does opposition to the Technician program arise?

Dr. Goldsmith: As an example, in the therapy fields, the Occupational Therapists are all for what we are doing, but the Physical Therapists are afraid of it. It may be a fear based on legal considerations -- licensure, fear of malpractice suits, and so on. And the 5-year technician seldom welcomes the prospect of job and professional competition from a two-year AA. Both the national organization and the individual practitioner may be opposed. So we're starting with the OT's, who will accept the technician. With the Opthalmology/ Optometrist Assistant, we can't even get the people in the two fields to sit down together, although we suspect the assistant job may be pretty much the same for each. So we expect eventually to make our way through some of these problems.

Sister Ferdinand Clark: In approaching the professional Pharmacists with this program, they should be sold the philosophy that you are providing assistance to do those things that they shouldn't have to do. These are innovative and imaginative programs that will be helpful to the patient, will help reduce costs, and give the Pharmacist himself more time for the higher functions of his profession.

Dr. Maronde: As you realize, we have to reorient the profession as well as redefine the roles of the Pharmacist.

Major LaFleur: We want to get involved in prepackaging and unit doses. We want to do more things and provide better pharmaceutical services, having qualified people to do the work.

Mr. Henrich: All of the national associations represented here, and the military, and others of you, have been thinking of and working for a number of years on the development of a pharmacy non-professional, particularly in the medical facility. I have asked Joe Oddis, Executive Secretary of the American Society of Hospital Pharmacists, to review the history and bring us up to date, finishing with the ASHP workshop on non-professional personnel held in January.

Mr. Oddis: I'll start telling you what is going on by explaining that Roger Cain represents the American Pharmaceutical Association, whereas our group, the American Society of Hospital Pharmacists, which is affiliated with the APhA, is a unit specializing in the institutional practice of pharmacy. By institution, we mean not only hospital, but also extended care facilities, nursing homes, and so on. Working with our group and Roger's are the American Association of Colleges of Pharmacy and the National Association of Boards of Pharmacy, represented here by Dr. Brady and Al Duncan respectively.

The first meeting of these four organizations that I can recall took place about seven years ago behind closed doors. Everyone was committed to absolute secrecy concerning the business of the meeting. The situation was so sensitive because of past history, part of which survives in the form of the Qualified Assistant in Pharmacy. This person was slated to have gone out of business some time ago, but a few have survived. And then we have the situation that Major LaFleur talked about -- the Pharmacy Technician in the armed services. I think I am safe in saying there is not one element in the profession of pharmacy that has not gone on record in official action as being in opposition to employment of Pharmacy Technicians in the armed services.

Because these resolutions are largely opposed to much of what we advocate today, I'm about to recommend to APhA that we pass a resolution voiding all such resolutions that we adopted in the past. In fact, we have moved so far away from opposition that in January of 1969 we held a national conference on the training, development, and use of sub-professional personnel. Nevertheless, there still are groups within our own ranks that systematically and periodically are adopting resolutions in opposition to Technicians in pharmacy.

So in seven years since the first meeting I mentioned, the four organizations have come to work together openly, in recognition of the need for dealing with common problems. At one point, a joint committee of ASHP and APhA issued a statement on Pharmacy Technician helpers in hospitals. It concluded with two recommendations: that the ASHP should undertake the in-service training of Technician helpers in the institutional setting, and that the American Association of Colleges of Pharmacy serve as an advisory group to ASHP in this effort. These resolutions were approved in principle; the next step was to define this individual and his training and his functions. Between this phase and the conference in January, changes in the health care and health manpower fields made it clear that the subject was not one that could be restricted to the institutional practice of pharmacy.

The American Pharmaceutical Association undertook a study of the Technician, and again the other three groups represented here took part in a study of the Technician in the profession as a whole. That study in turn led to a series of three conferences in Chicago, of which one is taking place at this moment. So we now have the ASHP and the AACP specifically concerned with institutional Technicians, and we have the whole profession concerned more broadly with the general practice of pharmacy.

At the first Chicago session there was clear recognition that aside from the emotional difficulties we knew we would encounter, everyone seemed to agree that our first priority was to get on with the job of defining the Pharmacist.

While there was no serious resistance to the development of Technicians in the institutional setting, there was great concern on the part of community practitioners about any spillover of those Technicians into community practice.

Some functions the community Pharmacist could and should perform already have been identified -- drug information to physicians and their patients, adverse reactions, and others. The APhA group has been meeting for the third time in an effort to identify ideal roles for Pharmacists, and then to identify those roles that might reasonably be turned over to sub-professionals in the practice of pharmacy, both in the hospital and at the community level. I don't know how successfully we can do it, but that's what has to be done.

I believe the role of the Pharmacist in the institutional setting is by no means settled in terms of a definition. As a pharmaceutical service becomes accepted in a hospital, more and more demands are being made on the Pharmacist because he has a certain type of background and training that can be utilized. I also believe that many of what should be pharmaceutical functions in hospitals have been performed by nurses, medical interns, residents, and others.

Our Pharmaceutical Survey in 1948 estimated there were some 3,000 Pharmacists practicing in hospital settings, and that 40 to 50 percent of the hospitals did not have Pharmacists. In 1960, the number of these Pharmacists about doubled, to 6,000, and there still were 40 to 50 percent of hospitals without Pharmacists. And now the figure has risen to 12 or 13 thousand, and about 40 percent of the hospitals do not have Pharmacists. I might add that the 60 percent with Pharmacists probably represent about 85 percent of the hospital beds. When Medicare made it a matter of law that institutional staffs include a Pharmacist, we felt an obligation to make sure that the manpower was there, so our society undertook what we call the traineeship program for community Pharmacists serving smaller institutions without full-time Pharmacists.

This traineeship consists of on-the-job training for a period of 8 to 10 weeks, in the hospital setting, with reading assignments between the hospital visits. Our objective was to help the community Pharmacist who perhaps served that facility, but who didn't know anything about the institutional setting. Over a period of two years some 1,200 community Pharmacists have gone through this program, and we now are checking to determine whether they have utilized it in the way we intended.

As for the Chicago sessions, it was decided to have a paper prepared spelling out the state of the art, that is, where we are today, in terms of functions performed by Pharmacists -- just identifying all those functions. Last week's meetings concentrated on outlining what functions required the Pharmacist's professional knowledge and judgment, and specifying the technical judgment involved in each. We hope to have this ready for our annual meeting in May.

Sister Jane Durgin: I'd like to comment on the difference of opinion between the two segments of the profession. I think that we in the institutional setting feel a great need right now for better training for this group of people who have been assisting us. We feel that if we are going to continue rendering the services that we want to render to patients, we are going to have to define some kind of better preparation for the persons who are working with us. The need is not being created -- the need is there -- and I think our

purpose here is to try to meet this need. We're probably about ten years late right now, in the institutional area, in developing persons adequately trained to work as partners on the pharmacy team.

Mr. Duncan: I think it's wonderful that we can validate the functions of the Pharmacist, but I'm also engaged in law enforcement. And all Pharmacists would end wanting the laws enforced, no matter what happens. From the National Association of Boards of Pharmacy viewpoint, if we recognize these Technician levels, what is going to happen in the future? While I see the benefits of having a highly trained Pharmacist in the institution, at least I'm capable of representing some sincere doubts about what we are doing to the profession.

Mr. Ravin: One thing that will help us along is that as Medicare involves the setting of minimum standards related to quality, and as the Joint Commission on Accreditation of Hospitals includes standards of pharmacy, this is going to carry over into community practice.

But the Pharmacist isn't going to be able to undertake new roles until he has someone to take care of part of his present duties. If the NABP and APhA and everybody should decide next month, as a result of these meetings, that a Technician can do such and such, he still won't be able to do it because we have to train him to do it first; so the Pharmacist has to keep right on with what he's doing now. I'm glad we're not on a time schedule that calls for a decision, say, three months from now; but at the same time I don't see how we can worry about the things we are discussing and not do something because of these fears.

Mr. Beckerman: Another thing -- this is what the law is now, and I think we realize there are other forces involved beyond, possibly, protection of the profession. We should be concerned with the protection of the public, and this would come about through establishment of sufficiently high standards of quality. Now, if in so doing we open the door for these subprofessionals or Technicians or what have you, would we be remiss in also doing something that would improve service to the public and elevate the profession through establishment of these high standards? If so, there is something wrong with our profession.

We have to look at what is going to happen in pharmacy when we do have this Technician group. I agree it is very beneficial for the institutions, and I agree that it is a much bigger problem at the community level. But right now, in some of the states, they do have Technicians who are helping the Pharmacist at the community level.

Mr. Henrich: I'd like to make some comments on the organization of the Committee. This already has been discussed with Joe Beckerman. I see my role as that of a coordinator. Perhaps you will want to name a chairman. You may wish to assign certain aspects to a sub-committee. Is there any feeling about the question of a committee chairman?

Mr. Oddis: It might expedite matters if you retained the position of direction, whether as chairman or as coordinator, because you are responsible for determining your own deadlines. Could we now take a cursory glance at the Function List?

Mr. Henrich: We anticipate that this Committee will function until we produce or do not produce a product -- a curriculum. They will approve every development, major step by step, until the complete job is done. Some of you have asked how often the group is expected to meet. I'd suggest the next time might be after we complete the task analysis and the survey of Pharmacists in health care facilities. In the meanwhile, we can keep you informed by mail.

Mr. Ravin: I'd like to ask Joe Oddis a question. Do you think there's any chance that your APhA committee will be able to come up with something in time to be of help to us here? Or will their product be so broad that we're going to have to work outside that group?

Mr. Oddis: Well, I think all of these pieces might begin to fit together. We've had five, six, seven years of preparation -- we've taken things to a certain level with our own sub-professional conference; and now this APhA project involves the profession in a broader sense. The UCLA program has dollars and it has expert talent in education and other areas. Once the APhA program decides to go Technician, the UCLA type of expertise has to come into the picture. Nothing we have done so far, however, is in conflict with what takes place here. This is so, providing the profession says, "Go."

What will this project do if the profession -- any profession -- were to say, in effect, "We won't support your program. We'll block it. We think you're imposing something on the profession that you have no right to impose." That's a judgment that still is to be made in pharmacy, which is why I described all that background in such great detail. Last week the meeting in Chicago had begun to analyze pharmacy functions in terms of who does what. If they have made progress on that basis, another meeting is scheduled in a week or so. If they are set for another meeting, then perhaps this task analysis might be in tune with the Chicago product. It certainly comes very close to what we tried to do with our sub-professionals.

At this point, we are shooting not for approvals, but just a product, a couple of documents. We approached this thing in Chicago from the viewpoint that we know there are laws and regulations that must be considered at some point; we know there's an educational situation that has to be dealt with; but we also are aware that the health system developing throughout the country brings external forces to bear on the whole health delivery system, and pharmacy has to be prepared to move in on that. If we identify where we go in this health delivery system and find we have run afoul of State Board regulations, or laws,

or what-not, then we have to tackle that problem at that point. If you start considering what the law or the regulations say now, we might just as well drop it.

Dr. Brady: Here's how our Board faced this. At the last legislative session there was a pretty good push for legalizing the hospital Pharmacy Technician. It had seemed likely that the American Hospital Association would suggest that licensing of hospital Pharmacists be shifted from the State Board of Pharmacy to the State Board of Public Health or some other body. In response to this, the Pharmacy Board carefully studied existing regulations, and decided that the definition of repackaging and manufacturing operations fit the hospital pharmacy very well, and since the Board required not a Licensed Pharmacist to handle drug repackaging and manufacturing, but only pharmaceutical supervision, it was deemed perfectly legal for a Pharmacy Technician to do this work in a hospital. This required no change; they encountered a problem and they found a way around it; so they still maintain the licensing of hospital pharmacies and Pharmacists in the hospitals, and the Technicians are authorized to do the work under proper supervision. This was an interpretation of a law designed to regulate the manufacture and production of drugs. I know of no state that requires that a Registered Pharmacist package or repackage drugs.

Mr. Henrich: Some of you have asked how or why we got so far along with this program, in view of other activities in the field. We were aware of what was going on, and we decided to gamble on acceptance of our methodology. We felt it appropriate to set in motion the machinery to evolve a curriculum, knowing we would deal with the approving bodies later.

Major LaFleur: Then we will be talking from the viewpoint of the institutional pharmacy rather than the community or neighborhood drug store?

Mr. Henrich: Yes. Perhaps I have failed to make that clear.

Mr. Ravin: That also reduces a tremendous amount of initial opposition.

Major LaFleur: The new draft of GS 661 Pharmacist Series that you used among your sources says, "The pharmacist is held legally and professionally responsible for all pharmaceutical work performed in or by the pharmacy. By law he cannot delegate this responsibility to others not trained and licensed to practice pharmacy; therefore non-professional pharmaceutical work is performed under the direct supervision of a pharmacist subject to his direct control." This is a Civil Service regulation, and I thought it was a pretty good statement covering our legal and professional responsibility.

In training Pharmacy Technicians, we try to give them only as much technical information as they're going to need. We turn them out with the idea that they are Technicians, and if they don't know something they should ask the Pharmacist. I think the people who end up in Pharmacy are better people than we get in the military at large. They are among the better people in our hospitals, and most people in the hospitals will agree.

Dr. Goldsmith: I think we have to remember that these technical-level persons we are training may be regarded as experts by the people to whom they talk in their own communities. So it might be well to give them just enough information for them to know what they don't know.

Dr. Ravin: You've mentioned modules, and I don't think I know what a module is. I've heard the term, and I understand it as meaning a small group of activities. Is this right?

Dr. Anderson: No. It would be a unit of instruction that is complete in itself -- a pre-packaged item. And we develop it as a manual like yours, or a film that covers the operation or procedure. A module has a beginning and an end, and it covers all the material for the procedure.

Mr. Ravin: Well, if we think in terms of modules our job will be a lot easier, because, as with pharmacology, the topic might be needed in one area but have nothing to do with another area.

Mr. Duncan: One thing we must keep in mind that will have a heavy bearing on Pharmacist vs. Technician is the developments taking place in the packaging of pharmaceuticals. As we draw closer to the concept of unit packaging, having each capsule or tablet or other unit of medication identified by all necessary information right on the package, then one must question whether what the Pharmacist does today can be turned over to the Technician merely because more controls have been built into the system. Methods and systems can change over night, at this point. Prepackaging would have a direct bearing on who does what with medication, from the pharmaceutical viewpoint.

Sister Ferdinand Clark: Would in-service training for these Technicians be included in the package, and where would it fit?

Mr. Henrich: One of the things Dr. Brady talked about -- and again, you haven't challenged the methodology -- is how we are going about this whole thing. The first thing we are doing is to find out what the individual should do. Then we find out what he needs to know to do it. Then we ask ourselves, should this be taught in a junior college? Should this be taught on the job? Should this be in-service training?

Sister Ferdinand Clark: I am not talking about in-service as equivalent to on-the-job training but rather as continuing education or as a continual program of education for the Technicians, to keep them up to date, as we do in every other field.

Mr. Henrich: I think it's an important point and a part of what is built into the grant itself. By this, I mean we have a responsibility to change the package if and when we have developed it, as new information becomes available wherever it may be used, whether in-service or in an educational facility.

This brings up the career matter -- what kind of credit are these Technicians to get for their training, and how does it relate to other programs? The Pharmacist knows what training he got in, say, 1956 -- it included an extensive background as well as advanced technical information. Now we're developing this new person, giving him job-specified technical information. The problem

is getting credit in pharmacy school for our Technician who wants to move up and the problem is going to be a rough one. The two different programs are not going to match up, and I'm sure we're going to have to make a lot of compromises. But we still have a charge to try to relate to the ladder concept, and to provide for the individual's ability to move upwards, sideways, what have you.

Unidentified Speaker: In many Pharmacy functions, the control would be very important.

Unidentified Speaker: Yes, this is what Ed worried about when he started reading through the Outpatient portion of the function list. There was simply not any provision for a check by the Pharmacist. But we are simply looking at the over-all picture of the tasks and functions that are being performed at present; and then we can start identifying the ones we use, and can ignore others because of either outside pressure, or because they require professional judgment.

Sister Jane Durgin: In relation to that very thought -- your heading of Health Facility Pharmacy Functions does not suggest some of the related higher functions of the Certified Pharmacist that we have been discussing. Could we broaden the title to suggest such areas as drug information service? In clinical pharmacy services we now really consider that a part of pharmacy function. Or perhaps we could narrow the title by indicating that the list includes only technical functions and activities.

Mr. Henrich: One thing that makes this difficult is that I drew the actual function titles from existing lists that are principally related to the work of the Technician or Assistant. There will be other functions that should be categorized as general pharmacy functions. I've heard mentioned today such functions as pharmaceutical education -- the consultant role of the Pharmacist -- that would reflect what some Pharmacists are doing today. We know that functions are missing at the upper end of the scale.

Sister Jane Durgin: You have mentioned Research and Education,and Administrative Functions. These are things to which we do not give much thought in instructional programs.

Mr. Henrich: We tried to develop as complete a list of health facility pharmacy functions as possible. Once we have decided which function can be handled by the Technician and which are reserved to the Pharmacist, we'll be in a position to fill in the gaps.

Dr. Goldsmith: I would hope that you don't omit the professional pharmacy functions because once we round out the list to include both Technician and Pharmacist, then you can add some of the functions mentioned by Dr. Maronde and others, to indicate to the Pharmacist in the health facility what new functions he can pick up as a result of your having identified those of the Technician.

Mr. Henrich: As a result of some discussion of the function list and in view of what you have said, it seems to me that perhaps we ought not to do a survey of the institutional pharmacies. Most of the surveys are designed to find out what people are doing right now. I suspect there aren't enough formalized programs in operation to yield statistically valid results.

Dr. Brady: As I look at this list, it seems to follow the VA manuals for the training of pharmacy residents -- a list that the pharmacy intern is to follow in his work.

Unidentified Speaker: What we should look for is an ideal program for the Technician, to enable him to serve to the maximum of his capabilities.

Mr. Duncan: That brings up a point. What is going to happen to the pharmacy intern after we get the Technician?

Dr. Brady: He'll be performing on the basis that he should -- on the basis of drug judgment.

Mr. Ravin: I think this is a list of some of the health facility pharmacy functions, and I'd be happier if we could so identify it. We should make it clear that these are some of the functions to which we are giving attention because they represent a potential for employment of Technicians.

Mary Ellison (Editor): How about "selected" health facility functions?

Mr. Henrich: I think we all can buy that suggestion.

Mr. Ravin: We must give thought to what the newly revised AHA Joint Commission standards call for, and Medicare standards. If we take these as our broad basic outlines and expand from there, and include all functions where they logically should be placed, I think we would make sure that not too much has been left out.

Sister Ferdinand Clark: The institutional pharmacy standards of the Joint Commission on Accreditation of Hospitals included in the revised standards have not yet been approved. The document is in process of revision; it has been submitted to the hospitals for their reactions through the State Boards rather than direct, which will slow down approvals. I thought the section on pharmacy was good. But I don't think the entire matter is going to be settled quickly. We are up for renewal this year, and it will be done by the old standards.

(Because specific instances of the use of electronic data processing appeared in the task list, the Committee meeting was recessed shortly after lunch of the first day, to permit the group to go with Dr. Maronde to visit the U.S.C. Medical Center and inspect its use of electronic data processing for medical orders, drug utilization studies, and printing of prescription labels. The discussion was continued on the following day.)

Sister Jane Durgin: I'd like to go back to Dr. Brady's looking into the problem of arranging for scholastic credit for certain courses for these people. We have this difficulty with nurses -- we can't get the credits from the university. I have very mixed feelings about this. For example, I can't think that all the girls who work for a Cosmetology AA in junior college really expect to move on to dermatology, yet the two-year nurse tech may well decide to go for the baccalaureate. I know we face this problem with our pharmacy Techs. We are not at all clear about what is recognized for academic credit even with existing programs. The general answer is -- nothing --

which is unfortunate.

Sister Ferdinand Clark: That's the point I want to bring up -- that since we recognize that we want to train the people we can get to do the work, we should keep exploring the possibility of enabling them to get credit for the training, but we should not try too hard to find an answer to the problem because we may never get one.

Mr. Henrich: To me, if there are priorities some of them may be lower than others. We have to train someone to provide service, and do the best we can for him as far as academic credit is concerned. I don't believe we ever are going to get 1 for 1, because the Technician is not going to get an hour of class in the same way as the student in pharmacy school.

To make sure we are developing occupational training rather than a strictly educational program, when we write down the skills or knowledge a Technician needs, let's justify our decision. Why do we think they need it? Do they really need pharmacology, or do they need just a little: Enough to know the use of the drug and what happens if the patient gets the wrong drug or the wrong dosage -- the toxicology rather than the pharmacology? If we don't, we may end up with the same kind of curriculum as the pharmacy schools use. I'd rather have us come up with three months of instruction and six months of clinical experience if necessary.

Now, where are our recruits coming from? The Office of Education is relating to a fantastic degree to the social unrest of our society today. We are involved with another USOE grant in the minority area, under which we are going to be developing core courses at perhaps even the ninth grade. Do we have to start with remedial reading? Is this where we start? Do we have to come up with a basic course in personal hygiene -- "Why do you wash your hands?" People have to learn some things you may not conceive of.

One of the things minority students -- and others, too -- want to know is what the training is going to get them. They are not interested in education per se. They are interested in the answers to the question, "What happens to me when I get through with this? Where do I go from there if I want to go somewhere else?" The people with whom we are concerned in this other grant are asking some pretty pertinent questions. In other words, public relations-wise, we may be in hot water if we develop jobs that are completely dead-end, although I know a good proportion of these people will be quite satisfied with it, and the percentage capable of or motivated to moving ahead may be quite small.

Then, there are those testing programs they are trying in New York to show whether the student has sufficient background to get credit for something that normally requires academic preparation. If a 3-year RN can pass the tests she can move on to a baccalaureate program with three years of credit. This eventually may be our answer to the problem; but we have to consider these things in context with what we are doing.

Unidentified Speaker; I think that with a minimum program, the products of this instructional program could be immediately employed. Now, where they go from there I can't say, but it seems to me there is a considerable amount of mobility within a kind of hierarchy that might be developed here. I am curious, Jay, to know whether your programs have any built-in statistical studies to show how many of your Technician trainees go on to higher training.

Major LaFleur: A considerable percentage of those who write in to us say that they are in pharmacy school at present. But we get a special kind of trainee. Many of them had started pharmacy school and got sidetracked -- dropped out, got drafted, had financial problems, or just goofed off. When they get into the Army and are told they have to go to school, the first thing they think of is pharmacy, and that's how we get them. Interest and motivation are probably the most important factors to consider, because if a student is interested, regardless of his background he can do well. We talk about mobility. Where do you get mobility without interest or motivation? That's the unknown factor in education, regardless of background.

Mr. Duncan: I think I am the only one here who has apprehensions about the health care centers getting into out-patient drug distribution. I am concerned about this because I know the Pharmacist should be as secure in one environment as in the other, and the prescription that goes with the patient is the same. However, we may object to doctor-owned pharmacies, but the hospital out-patient pharmacy is almost doctor-owned. Instead of being controlled by the Pharmacist, the prescription is controlled by the hospital administration.

THE COMMITTEE'S REVIEW OF THE TASK INVENTORY

Following the general discussion, Mr. Henrich initiated specific discussion of the draft functional task list of institutional pharmacy duties. He gave credit to Mrs. Minna Pearlman and the secretarial staff for their assistance in developing this inventory. It was noted that among the key sources of material were the University of Michigan-Bartscht report, the draft report of the American Society of Hospital Pharmacists January meeting in Washington, D.C., and information provided by Mr. Arthur J. Davis of the VA Wadsworth Hospital pharmacy.

Mr. Cain commented that the list was not all-inclusive, and suggested that for this reason it might be designated as a selected functional list of facility pharmacy operations. Dr. Brady suggested that the Committee try to work with the total package presented, and that a start be made by reviewing the entire function list as presented by the project.

The Task Inventory, as presented to the Committee in draft form, comprised the following sections:

I. Solution, Compound Manufacture
II. Prepackage
III. In-patient Pharmaceuticals
IV. Out-patient Pharmaceuticals
V. Purchase, Inventory, Receive, and Store
VI. Administration
VII. Operate and Maintain Equipment
VIII. Research and Education

It was agreed that in preparing the report of the meeting, rather than cover discussion of the Function List in narrative form, only the major suggestions and findings be included. In accordance with Dr. Goldsmith's suggestion, it was agreed that the first two sections -- Item I, Solution and Compound Manufacture, and Item II, Prepackage -- be revised by a local sub-committee with representation from Mr. Beckerman and Dr. Brady.

The Committee spent a great deal of time reviewing Items III and IV, In-patient Pharmaceuticals and Out-patient Pharmaceuticals. These were combined into one section, entitled "Dispensing Pharmaceuticals," and the Committee developed the draft of this section.

It was decided that Section V, Purchase, Inventory, Receive and Store, was basically acceptable with some minor changes.

The following action was taken on Item VI, Administration, which included such sub-heads as Secretarial and Clerical Functions, Accounting and Finance Functions, and Control Procedures. Control procedures were to be integrated into all other sections at appropriate points. Secretarial-clerical and accounting-finance functions were eliminated as not relevant to the overall Pharmacy Technician program. (It was agreed that these functions should be provided by other than Technician types of personnel.)

The Committee decided that Item VII, Operate and Maintain Equipment, should be integrated into the other sections.

Item VIII, Research and Education, should be eliminated for the present time; it was the Committee's feeling this would permit time to explore a realistic application of this function for the Technician-level employee.

This rearrangement of the outline, and consideration of specific tasks, plus the specific redevelopment of Sections III and IV, led to the final proposal of the Committee -- that a new draft be prepared and presented through the mail. The new draft, as completed, consists of three sections: I. Dispensing Pharmaceuticals; II. Compound Manufacture; III. Purchase, Inventory, Receive, and Store. To recapitulate: Item I is basically the draft developed by the Committee at its March 23 meeting; Item II was drafted by the local sub-committee; and Item III, initially drafted by the Project, incorporates minor changes suggested by the Committee. These three new sections appear in their entirety in Appendix A.

Also attached is Appendix B, an analysis of the task lists with respect to training and curriculum.

COMMITTEE SUMMATION

Mr. Oddis: In this new task inventory we have created what is essentially a new category of personnel in the institutional setting, and we have rearranged the functions in such a way that the Pharmacist is doing pharmacy as we should like to see him do it, and has left behind under controlled supervision those tasks and functions that we are now going to relegate to the Technician. We could take what we have done today and extrapolate it into community practice, where you would have the setting for a Technician and Pharmacist function rolled into community practice.

Now, this is not an easy thing to do, because we are revising the whole system as we know it today; but there is no reason in the world why we could not function in exactly the same way in community practice.

Mr. Cain: Whatever comes out of this function list for the Technician will be a clear guide to what additional training is needed for the Pharmacist to enable him to perform his function.

APPENDIX A

Revised Task List

APPENDIX A

I. DISPENSING PHARMACEUTICALS

Pharmacist or Technician Functions	
P/T	A. Receive the Order
T	1. Receive direct copy of physician's order
P	2. Receive verbal order from physician
	a. Prepare written form
P	B. Review the order
	1. Interpret the order
	2. Evaluate the order

Pharmacist or Technician Functions	
	a. Profile card
	3. Clarify order if required
	4. Certify
	a. If A-1, by R.Ph.
	b. If A-2, by M.D.
T	C. Prepare dispensing and administration records
	1. For master file
	a. In pharmacy, profile
	b. In ward, Kardex

Pharmacist or Technician Functions	
	2. Nursing notes
	3. Medical ticket or list
	4. Billing record
	5. Dispensing record
P	D. Certification and verification of records
P/T	E. Dose preparation - pre-compounded medications
T	1. Prepare label
T	2. Select drug

Pharmacist or Technician Functions	
T	3. Select container
T	4. Package and label
P	5. Certify completed order
T	6. Perform necessary housekeeping and maintenance chores (Section F-12)
P/T	F. Dose preparation, extemporaneously compounded non-sterile medications
T	1. Prepare label
T	2. Select drugs
P	3. Verify drug selection

Pharmacist or Technician Functions	
T	4. Select equipment
P	5. Calculate weights and measures
T	6. Weight/measure
P	7. Verify weights/measures
P/T	8. Combine
T	9. Select container
T	10. Package, affix label
P	11. Verify

Pharmacist or Technician Functions	
T	12. Housekeeping and maintenance NOTE: Add "Aseptic Techniques" to curriculum
P/T	G. Dose preparation, extemporaneously compounded sterile medications
P/T	1. Follow all steps under "F"
P/T	2. Employ special techniques appropriate to sterile procedures
P/T	H. Transport to unit for administration to patients
T	1. Prepare for mode of transfer to unit
	a. Cart
	b. Tray

Pharmacist or Technician Functions	
	c. Pneumatic tube
	d. Dumb waiter
	e. Lateral conveyor
	f. Messenger
T	2. Maintain records of delivery
T	3. Distribute medications to units
T	4. Organize if necessary for administration of medication to patients
	a. Prepare for individual dose from multiple-dose package

Pharmacist or Technician Functions	
T	5. Administer medication
	a. Verify
	b. Administer
	c. Record if administered
	d. Communicate and record if not taken by patient
P	6. Processing unadministered medications
	a. Classify returns
	(1) Pickup order

Pharmacist or Technician Functions	
	(2) Reconcile return with order
	(3) Determine drug credit
	(4) Enter amount of credit
	b. Return drug to stock
	(1) Examine:
	(a) Deterioration
	(b) Breakage
	(c) Expiration time

Pharmacist or Technician Functions	
	(d) Re-usability
	(2) Pour into stock bottle
P	I. Deliver to patient for self-administration
	1. Counsel patient
	a. Obtain drug use information
	(1) Adjust patient profile if appropriate
	(2) Consult physician if contra-indication exists
	b. Counsel patient on self-administration of new prescription

Pharmacist or Technician Functions	
T	J. Housekeeping and maintenance
	1. Return equipment
	2. Return bulk medications to stock
	3. Clean area
	4. Replenish stock

II. MANUFACTURING/BULK COMPOUNDING
(All Items Except Sterile Solutions)

P	A. Prepare master formula
P	B. Prepare work sheet (batch sheet)
T	C. Select necessary equipment in accordance with master formula
T	D. Select ingredients
P	E. Check ingredients
T	F. Weigh or measure ingredients carefully
P	G. Check weights and measures
T	H. Record weights, control numbers and other pertinent information on work sheet
P	I. Check work sheet in comparison to master formula

T		J. Combine ingredients as directed on master formula
T		K. Store completed product under quarantine until control laboratory releases it for packaging
T		L. Clean and store equipment

APPENDIX A

III. STERILE SOLUTION MANUFACTURING

Pharmacist or Technician Functions	
T	A. Prepare product under aseptic conditions in accordance with good sterile techniques
T	B. Prepare bottles or vials by proper washing procedures followed by final distilled water rinses.
T	C. Fill container under proper conditions
T	D. Autoclave under correct conditions of temperature, pressure and time.
T	E. Remove material from autoclave allowing product to cool.
P	F. Inspect finished product for clarity and vacuum
T	G. Label acceptable product with correct labels

Pharmacist or Technician Functions	
T	H. Send sample to laboratory for sterility and pyrogen testing.
T	I. Store completed product under quarantine until control laboratory releases it for packaging.
T	J. Clean and store equipment

IV. PURCHASE, INVENTORY, RECEIVE, AND STORAGE

Pharmacist or Technician Functions	
P	A. Pharmacist determines specifications, purchasing responsibilities and acceptable vendors
P/T	B. Purchasing and inventory control
T	1. Maintain inventory records
	a. Manual
	b. EDP
P	2. Determine reorder points
	a. Manual
	b. EDP

Pharmacist or Technician Functions	
P/T	3. Prepare purchase order on reorder form
P/T	a. Manual
P	(1) Special legally required order forms prepared by Pharmacist
T	(2) Prepare non-restricted forms
T	b. EDP
T	(1) Prepare non-restricted forms
P	4. Obtain approval for purchase order from Pharmacist
T	5. Maintain purchase order suspense file
	a. Manual

Pharmacist or Technician Functions	
	b. EDP
T	C. Receive drugs
	1. Check identification
	2. Check for damage
	3. Check for shortage
	a. Compare packing slip with purchase order
T	D. Insure proper storage
	1. Insure general safety
	a. Provide special control storage for restricted drugs

Pharmacist or Technician Functions	
	b. Provide quarantine for raw drug materials
	2. Check temperature requirements
	3. Check flammability requirements
P/T	E. Process invoice
T	1. Check for reception of material
T	2. Compare invoice with purchase order and packing slip
P	3. Approve for payment
T	4. Distribute for payment

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APPENDIX B

APPENDIX B

The last page of this appendix is a draft of a questionnaire that would be used to analyze the task inventories. The questionnaire would provide data concerning the subjects listed below. It is proposed that the Committee divide the task list into sections and apply the scale number. Each area of the analysis has been defined and scaled and a reason is given for its inclusion in the questionnaire.

1. FREQUENCY

   Defined: How often is the task performed?

   Scale:
   1. Daily
   2. Weekly
   3. Approximately once a month
   4. Rarely
   5. Never

2. RELATIVE FREQUENCY

   Defined: This is the second of the two frequency scales we are considering. In terms of the relative scale shown below, frequency is defined as the amount of time spent at a given task relative to the amount of time spent on other tasks listed in the inventory.

   Scale:
   1. Very much below average
   2. Below average
   3. Slightly below average
   4. About average
   5. Slightly above average
   6. Above average
   7. Very much above average

   Reason:
   1. Frequency will provide grounds for either exclusion or inclusion in a possible curriculum.
   2. It may provide relative value to task in a curriculum.

Continued. . . .

3. Teaching methodology may vary in relation to repetitive nature of the task.

4. Two frequency measurements are used to test validity of absolute versus relative scales.

3. IMPORTANCE

Defined: Importance can be defined as how critical a task is in terms of consequences of error. Error can be defined in terms of dollars, equipment damage, employee or patient injury. The scale for importance would be directly related to the error itself.

Scale:
1. None
2. Negligible
3. Reparable
4. Irretrievable

Reason: Gives an indicator for inclusion and/or relative emphasis in a curriculum.

4. SKILLS

Defined: The skill scale relates simply to selection of one or more of the three types of skills required for the task. Skills are defined as abilities required for satisfactory performance, i.e.,

1. Manual skills, such as hand use-perceptual
2. Skills that require observation
3. Psychomotor skills, which combine the first two; an example of this could be hand-eye coordination.

Scale:
1. Manual skill
2. Perceptual skill
3. Psychomoter skill

Reason:
1. Indicator of teaching methodology
2. Determine clinical teaching component
3. Could determine inclusion or exclusion from curriculum

Continued . . . .

5. KNOWLEDGE

Defined: Recall of specifics and universals

Scale:

1. NONE. The task requires no application of knowledge in the subject area under consideration.

2. STRAIGHT RECALL. The task requires the performer to recognize and use terms, materials, or equipment in a given subject area in a rote manner.

3. RECALL (varied). The task requires the application of knowledge in a given subject area. The performer must know how to select and use a number of special materials, or instruments, or procedures in the subject area when the performer is requested to do so by someone in the task situation.

4. SELECTION OF ALTERNATIVES. The task requires the application of general principles or basic theory in a given subject area. The performer must know how the equipment or concepts of the subject area function in the task situation and, using basic theory, must be able to handle any changes from the usual conditions observed in the task, or to solve problems such as those presented by the task.

5. PROBLEM SOLVING. The task requires the application of theoretical concepts in a given subject area to solve a range of problems associated with the task. The performer must know the range of theories in the intellectual structure of the subject area's discipline.

Reason:

1. An indicator of teaching methodology

2. Determines level of instruction

3. Could determine inclusion or exclusion from curriculum.

SAMPLE

QUESTIONNAIRE

DRAFT

Enter appropriate number or numbers which indicate your answers to each subject about each of the tasks listed (see preceding definitions and scales.)

TASK	FREQUENCY	RELATIVE FREQUENCY	IMPORTANCE	KIND OF SKILL	KNOWLEDGE	
1.						
2.						
3.						
4.						
5. EXAMPLE Receive Direct copy of Physicians order	1	7	3	3	2	